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Journal of the Society of Arts.

FRIDAY, SEPTEMBER 14, 1866.

Announcements by the Council.

EXAMINATIONS, 1867.

The Programme of Examinations for 1867 is now published, and may be had *gratis* on application to the Secretary of the Society of Arts.

Proceedings of Institutions.

THE SOUTH STAFFORDSHIRE EDUCATIONAL ASSOCIATION.—The following letter has been addressed to the editor of the *Birmingham Daily Post*, by Mr. F. Talbot, the Secretary of this Association:—"It is now nearly seven years since the above Association was established, and you have, from time to time, been good enough to record its operations in your journal, and to call attention to its objects and prospects. But although the work and purpose of the Association have been thus kept before the public, and especially through the agency of the late secretary, Mr. Jones, they have not yet received that attention and support to which, I think, they are fairly entitled. Perhaps, therefore, you will kindly allow me space to state briefly what the Association has attempted to do hitherto in accordance with its title, and to suggest what may possibly be its future programme under more favourable conditions of existence. The Association was established in the beginning of 1860, to give effect to the very admirably devised scheme of annual examinations of the London Society of Arts, and this it does by making known to the Mechanics' and kindred Institutions of the district the provisions of that scheme; by promoting the establishment and instruction of classes of young men who are disposed to take advantage of those provisions; and, finally, by becoming responsible for the proper conducting of the Examinations of the Society at various centres throughout the district. This branch of the work of the Association has met with considerable success. Like all other educational operations in connection with Mechanics' Institutions, this one has recently suffered from various causes, which perhaps it would be difficult to define, but from the commencement of the examinations a large number of young men have earned the certificates of the Society of Arts, and some have succeeded in carrying off the highest prizes awarded by that Society for the distinguished excellence of their papers. In the first year after its establishment the Association matured, and has since carried out, a scheme for the examination of scholars attending evening schools. It was felt that unless youths were progressively trained from their ordinary school-days in the habit of answering questions upon paper, there would be little hope of that large number of them, which was on all accounts desirable, coming up year by year to the Society of Arts Special Examinations; and it was wisely thought, too, that even if they did not do this, the annual testing of their ordinary acquirements by an examination would be productive of the very best results. For six years this Elementary Examination has been held, and hundreds of boys and several girls have received certificates issued by the Association, indicating

the state of their knowledge of Scripture and English history, of arithmetic, geography, and composition; and in the case of girls, of plain needlework, in addition to these subjects. This year, for the first time, the Association has been able to offer a few prizes to the most successful scholars, and the result of this step, both on the character of the examinations and on the number of candidates, according to the report of the examiner, the Rev. Julius Lloyd, seems to be very satisfactory. He says:—"There has been an increase of candidates this year from 122 to 184," and "The improvement upon last year's results in the lower grade is decided and considerable." A Supplementary Examination of more than thirty of the best candidates of the present year will be held in a few days in competition for three prizes, offered by the President of the Association, Lord Lyttelton, and by the Earls of Dartmouth and Lichfield respectively, for the best papers on money matters, animal physiology, and domestic economy. The last for girls only. Another effort of the Association has been directed to the aid of Working Men's Clubs. It has been the medium whereby the Central Working Men's Club Union has operated throughout the district, and through its agent it has been instrumental in disseminating much information as to the objects and plans of these clubs, and in bringing together, on several occasions, large numbers of the friends and supporters of the movement. It has likewise offered to the clubs, as to other Institutions in union with it, all the educational advantages within its power. In aid of all these three classes of Institutions the Association has published annually a list of lectures, which have been offered at a small cost to Institutions, with a view of paying the travelling expenses of the lecturers. These have been, in many instances, of great value to Institutions, but have not been used to that extent which is desirable. There is no doubt, however, that the Association has done well in keeping this branch of operations well before the Institutions of the neighbourhood, and it may be hoped that the issue of a good list in the coming autumn will revive the interest of the public in lectures, as an important and necessary portion of their annual programme. Having thus adverted to the past and present operations of the South Staffordshire Association, allow me to suggest the sort of enlarged scheme which the Association might reasonably entertain, should its funds become, as we may hope they will, adequate to such extension. In the first place the Association should again endeavour to unite the Institutions of the district in some definite course of instruction for their younger members. The day schools are now turning out annually so many well-taught boys and girls, that unless Institutions take up and continue the education thus begun, the effect of much good instruction will certainly be lost. Evening schools can do much towards enabling young persons to retain and perfect their elementary instruction, but they can never become, as institutions can, places for special instruction, either in science or in language. Whether the Association can assist in the establishment and teaching of classes by an agent itinerating through the district for that purpose, as in East Lancashire; whether it can engage the services of teachers for special subjects in certain districts; or whether it shall simply undertake, as it does now, to conduct examinations every year to test the soundness and extent of the instruction imparted by teachers engaged and paid by the Institutions, are questions that cannot at present be decided. Perhaps the best plan would be for the Association to provide a good board of examiners, who would annually examine all students of classes in Institutions, and certify their attainments and progress, even those of the most humble degree; that it should establish a prize fund to reward those Institutions that bring the largest number of pupils up to a certain standard, and the most industrious pupils by prizes of books or other suitable presents. In this way the Association would act on the same principle as the Government Department of Science and Art, and would not interfere

with those local efforts that must be stimulated into active operation if any real good is to be effected. The gradual enlargement of a library should be, as it generally is, one of the principal objects of an Institution. Something might possibly be done by the Association in this direction. It might publish annually a catalogue of the most useful books published during the year, with cost prices attached; it might publish lists of books which some Institutions might like to exchange for a time with others; it might possibly make arrangements whereby even the smallest Institutions could have their reading-room tables covered with the best serials at less than half-price within a week or two of their publication, and it might do a great service to students of Institutions studying for the Society of Arts by keeping a small library of the best text books for their inspection and reference. In the matter of lectures, however, perhaps the Association could do the greatest good. Taking within its limits, as it does, a large extent of country, it ought to be able to draw from the best educated portions of it stores of knowledge that should be available for others not so favourably circumstanced. It ought to be able to provide annually a long and varied list, and to state all necessary conditions of their delivery. It would be a great thing done for the district if the Association could provide annually for the delivery of a course of lectures, by some eminent man, on mining or metallurgy, or on some other subject similarly interesting and valuable to the trade and manufactures of the district. One other mode of stimulating the progress of education through Institutions should not be omitted. It is that of the prize essay. Most Institutions can point to thoughtful members, who are not much inclined for class work, but are excellent in their way at a discussion or an essay. These are men, generally speaking, whom it is most wise to bring to the surface of their respective societies; and a good prize or two offered annually for the best essays on given topics, would bring out much knowledge of men and manners in those classes of society of which we know in reality very little. For the encouragement of evening schools, both in their establishment and their subsequent efficiency, this Association is excellently adapted, and there is no branch of its operation, so far as it has been worked, that has been attended with better effect, or that promises more fruit in the future, than that one which deals with evening schools. Till within the last few years an evening school was a most rare thing; but now, thanks to the greater liberality of the Privy Council on Education, and to the greater zeal and determination on the part of managers of schools, and more especially on that of the teachers—and, it may be added, thanks to the greater consideration of some large employers of labour—evening schools are now increasing in numbers and improving in character throughout the district. But, even in the best instances, much, very much, yet remains to be done, and the Association, if well supported, can do both good service in showing what it is that is wanted, and in some measure supply the want. One of the best modes of helping the efficiency of school, is to provide for its scholars the advantages of a good system of periodical examination. This is what the Association does, and it is perhaps the way of all others in which it can effect the maximum of good with the minimum of harm. But a good list of prizes is much needed to make the examinations palatable. The work of evening school learning is at the best an irksome work to the scholars. They feel and acknowledge its importance, and will not lightly give up their interest in it; but the flesh is proverbially weak, and working boys, after their day's work is done, want a stimulus to exertion even greater than their love of learning. Prizes, then, are a necessity to the full success of an examination scheme; and the Association may surely hope for that measure of aid that shall render this portion of their programme not only effective, but likewise attractive. Next to the annual examinations, lectures of a thoroughly inter-

esting and instructive kind are, perhaps, the next best way of improving our evening schools and scholars. Illustrations and experiments are peculiarly valuable here. The Scripture, English, or Natural History are all excellent themes for illustration; and there is no portion of the week's work in an evening school more suggestive of good moral lessons than the period of the half-hour's lecture on Monday evenings. But a regular weekly lecture, with suitable pictorial illustrations, is not within the resources of ordinary evening schools. Both the one and the other must be supplied by the Association if supplied at all; and in this way it can render most efficient aid to the thirty or forty evening schools within its boundaries. Another excellent project, lately brought under the notice of the Evening School Board in Union with the Association, is that of organising an Evening Scholars' Annual Exhibition of Work. It is proposed that the productions exhibited should be the work of evening scholars during the preceding year, and that they should be specimens of school-work, such as maps, calligraphy, drawings, &c., or specimens of such industrial work as would be suggested to them in their various occupations, such as examples of carpentering, smiths' work, painting, grain-making, tool-making, carriage or boat building; or collections of geological and botanical specimens, &c. A scheme for the proper organisation of the above exhibition will shortly be submitted to the Association, and hopes are entertained that it will be received with approbation, and that the Association will be enabled to afford to it a small amount of pecuniary assistance, as the basis of a prize fund. As nothing must be left unattempted that harmonises with the general scheme of making evening schools thoroughly efficient for the great ends of sound education, the Association has, for two years past, organised a meeting of evening scholars for athletic sports. These meetings have been held, by the kind permission of the noble President of the Association, in Hagley-park, and have been, to a certain extent, most satisfactory in their results. To show the popular nature of these sports, at the last meeting, which was held in August, there were upwards of 150 competitors for the few small prizes that were offered, and the day was spent in the most enjoyable and proper manner. Having thus briefly sketched the past, and what may be, as I hope, the future programme of this useful Association, I hope I may be permitted to appeal to the wealthy manufacturers of South Staffordshire for that measure of support to its funds to which its objects entitle it. These objects are no other than those of helping the development and extension of a sound system of national education for working boys, through the means of evening schools. Thousands of these boys have never had the least school-learning whatever; and thousands of others, in their daily toil, are rapidly forgetting what little they have once learned. But already signs of improvement are abroad. Many of the manufacturers of the district are fully alive to the claims of their working boys; and their difficulty, singularly enough, lies not in their own indisposition to help them in their education, but in the indisposition of the boys to receive the boon. Still, things are improving. Several firms of the district have built schools which are second to none for efficiency. One firm, noted for its efforts to diffuse instruction amongst its workpeople, regularly encourages all the boys in its employment to present themselves for an annual examination, thinking, wisely no doubt, that no better stimulus can be afforded to a boy to improve his education than that of a knowledge of his own ignorance. It argues well, again, that the very firms that do most in the way of providing schools for their own workpeople are amongst the most liberal supporters of this Association. The Association, therefore, hopes for the best, and trusts to have more sympathy with it in its future than it has had in its past career."

WEST RIDING EDUCATIONAL BOARD.—On Saturday last,

the 8th Sept., through the kindness of Dr. Heaton, a meeting of ladies resident in the chief towns of the West Riding, interested in the education of girls, was held at his house, Claremont, Leeds, for the purpose of discussing the scheme of the university examinations for girls, with Mr. J. G. Fitch, M.A., Assistant-Commissioner of the Schools Inquiry Commission; Mr. Henry H. Sales, hon. sec. to the West Riding Educational Board; and Miss E. Davies, the authoress of many works on the social and intellectual advancement of women. After luncheon the subject for consideration was introduced by Dr. Heaton, who remarked that, although the meeting was held in his house, neither Mrs. Heaton nor himself should be regarded as the promoters thereof. It was thought that ladies would more readily enter into a discussion in a private room, and he was ever ready to assist any measure of public welfare; hence the issue of the invitations. As regarded the university examination of girls they must all feel that a test of the efficiency of the instruction given in these schools was alike valuable to teachers and parents. On his part, he not only should be willing for his children's knowledge to be tested, but should value any honours they might gain. Mr. Fitch had been good enough to turn aside from his very heavy duties to attend the meeting, and he no doubt would enter very fully into the matter before them. After a lengthened address by Mr. Fitch, an interesting discussion ensued, and the result of the meeting was the formation of a committee of ladies to superintend the Cambridge local examination, to be held in Leeds in December, in connection with the Board.

EXAMINATION PAPERS, 1866.

The following are the Examination Papers set in the various subjects at the Society's Final Examinations, held in April last:—

(Continued from page 663).

GERMAN.

THREE HOURS ALLOWED.

Each candidate is expected to translate one of the passages of Section I., to answer four of the questions of Section II., and to turn into German twelve of the sentences given in Section III. Candidates for a first Class must translate one piece of Section I., answer (e), (f), and (g) of Section II.; render into German 17–20 inclusive, of Section III.; give answers to the questions on the history and literature of Germany, and write out in German the essay.

SECTION I.

1. Heinrich von Brederode, Herr von Viane und Burggraf von Utrecht, leitete seinen Ursprung von den alten holländischen Grafen ab, welche diese Provinz ehemals als souveräne Fürsten beherrscht hatten. Ein so wichtiger Titel machte ihn einem Volke theuer, unter welchem das Andenken seiner vormaligen Herren noch unvergessen lebte, und um so werther gehalten wurde, je weniger man bei der Veränderung gewonnen zu haben fühlte. Dieser angeerbte Glanz kam dem Eigendünkel eines Mannes zu statten, der den Ruhm seiner Vorfahren stets auf der Zunge trug, und um so lieber unter den verfallenen Trümmern der vorigen Herrlichkeit wandelte, je trostloser der Blick war, den er auf seinen jetzigen Zustand warf. Von allen Würden und Bedienungen ausgeschlossen, wozu ihm die hohe Meinung von sich selbst, und der Adel seines Geschlechts einen gegründeten Anspruch zu geben schien (eine Schwadron leichter Reiter war Alles, was man ihm anvertraute), hasste er die Regierung, und erlaubte sich, ihre Massregeln mit verwegenen Schmähungen anzugreifen. Dadurch gewann er sich das Volk. Auch er begünstigte im Stillen das evangelische Bekenntnis.

2. Der König ritt herab vom Stein zu Baden Gen Rheinfeld, wo die Hofstatt war, zu ziehn, Mit ihm die Fürsten Hans und Leopold Und ein Gefolge hochgeborener Herren. Und, als sie kamen an die Reuss, wo man Auf einer Fähre sich lässt übersetzen, Da drängten sich die Mörder in das Schiff, Dass sie den Kaiser vom Gefolge trennten. Drauf, als der Fürst durch ein geackert Feld Hinreitet—eine alte grosse Stadt Soll drunter liegen aus der Heidenzeit— Die alte Veste Habsburg im Gesicht, Wo seines Stammes Hoheit ausgegangen— Stösst Herzog Hans den Dolch ihm in die Kehle, Rudolph von Palm durchrennt ihn mit dem Speer, Und Eschenbach zerspaltet ihm das Haupt, Dass er heruntersinkt in seinem Blut. Gemordet von den Seinen auf dem Seinen.

3. Ein edler Mensch zieht edle Menschen an, Und weiss sie festzuhalten, wie ihr thut. Um deinen Bruder und um dich verbinden Gemüther sich, die euer würdig sind, Und ihr seid eurer grossen Väter werth. Hier zündete sich froh das schöne Licht Der Wissenschaft, des freien Denkens an, Als noch die Barbarei mit schwerer Dämmerung Die Welt umher verbarg. Mir klang als Kind Der Name Hercules von Este schon, Schon Hippolyt von Este voll ins Ohr. Ferrara ward mit Rom und mit Florenz Von meinem Vater viel gepriesen! Oft Hab' ich mich hingeseht; nun bin ich da.

* * * * *
Italien nennt keinen grossen Namen, Den dieses Haus nicht seinen Gast genannt. Und es ist vorthellhaft den Genius Bewirthen; giebst du ihm ein Gastgeschenk, So lässt er dir ein schöneres zurück. Die Stätte, die ein guter Mensch betrat, Ist eingeweiht; nach hundert Jahren klingt Sein Wort und seine That dem Enkel wieder.

5. Heinrich III. ist auch unter den Kaisern zu nennen, welche die eigne Bildung durch Liebe zu den Wissenschaften, durch Gunst gegen ausgezeichnete Männer, und durch Förderung der Bildung im Allgemeinen bewiesen haben. Die Aufforderung des Lebensbeschreibers seines Vaters, Wippo, in einem eigenen an ihn gerichteten lateinischen Gedichte, dass er auch die Kinder der weltlichen Grossen in den Wissenschaften unterrichten lassen möge, hat er durch Sorge für die Schulen eifrig in Erfüllung gebracht. Es blüheten unter ihm vorzüglich die Schulen zu Lüttich, Lobbes, Gemblours, Fulda, Paderborn, St. Gallen, Reichenau u. a. In den beiden zuletztgenannten Schulen bildete sich einer der grössten Gelehrten der damaligen Zeit, Hermann der Contracte, von Jugend auf so gelähmt, dass er nur mit grosser Mühe schreiben konnte, ja so schwer mit der Zunge, dass seine Schüler erst langsam ihn verstehen lernten, und doch so gesucht und geehrt von ihnen, dass sie aus allen Ländern zu ihm strömten.

SECTION II.—GRAMMAR AND IDIOMS.

(a.) Form diminutives of *Garten, Knabe, Haus, Buch, Strass, Krug*.

(b.) State gender, number, and case of the following substantives:—*des Bösen, Ländern, der Frauen, der Bande, Geiste, der Mütter*.

(c.) Form the comparative and superlative of *gern, hart, viel, gross, nahe*.

(d.) Declension in every case, singular and plural, the German of:—New book; this high house; his older table.

(e.) When do neuter verbs take *haben* and when *sein* as auxiliary verbs? Illustrate the rule by two examples for each auxiliary.

(f.) Conjugate the present and imperfect of *haben*,

stehlen, werfen, singen, wissen, and add the participle past of each.

- (g.) Was soll das heissen?
Was gilt's?
Bekümmern Sie sich um sich.
Er lässt viel drauf gehen.
Er hat alles aufs Spiel gesetzt.
An wem ist nun die Reihe?
Wie ist er denn dahinter gekommen?
Ich kehre mich nicht daran.
Das ist ganz und gar aus der Luft gegriffen.
Es wird auch nicht viel darauf ankommen.
Das wird noch recht übel ablaufen.
Sie stacken alle unter einer Decke.

SECTION III.

[The writing, either in English or German characters, must be very legible.]

1. I bought three yards and a half of ribbon.
2. Many people have arrived in town.
3. Twelve times twelve are one hundred and forty-four.
4. It is a quarter to nine by my watch.
5. We who came yesterday had the advantage.
6. I have had a pair of boots made.
7. I have not been able to see you.
8. He who talks much does little.
9. With great anxiety they were waiting for him.
10. The table was ten feet long and five feet wide.
11. When you come again to our neighbourhood, you must call in.
12. Do write to us as soon as you can.
13. I would give all the treasures of the world for it.
14. Do you see that black and white horse?
15. Had I your money, I should travel to Italy.
16. Would that I had done everything well!
17. Do you believe him to be honest?
18. They are dear friends of ours.
19. One of my books had fallen under the table.
20. Till Clive appeared in India, his countrymen were despised as mere pedlars, while the French were revered as a people formed for victory and command. His courage and capacity dissolved the charm. With the defence of Arcot commences that long series of Oriental triumphs which closes with the fall of Ghizni. Nor must we forget that he was only twenty-five years old when he approved himself ripe for military command. This is a rare if not a singular distinction. It is true that Alexander, Condé, and Charles the Twelfth won great battles at a still earlier age; but those princes were surrounded by veteran generals of distinguished skill. Clive, an inexperienced youth, had yet more experience than any who served under him. He had to form himself, to form his officers, and to form his army. The only man, as far as we recollect, who at an equally early age ever gave equal proof of talents for war, was Napoleon Bonaparte.

QUESTIONS ON GERMAN HISTORY AND LITERATURE.

- (a.) Which are the most renowned emperors of the Saxon and Hohenstaufen house?
- (b.) When and under whom was the first crusade undertaken?
- (c.) What struggles had Frederic I. to contend with? How, when, and where did he die?
- (d.) State what you know about Hans Sachs and his works?
- (e.) Who is the great satirist in the sixteenth century?
- (f.) Name the principal *Volksbücher*.

Write in German a short essay on "The blessings of peace."

ITALIAN.

THREE HOURS ALLOWED.

Candidates for a first-class certificate must translate the following passage, and answer the grammatical questions based on it:—

1. Quando noi fummo fatti tanto avanti,
Ch'al mio maestro piacque di mostrarmi
La creatura, ch'ebbe il bel sembiante,
Dinanzi mi si tolse, e fe restarmi,
Ecco Dite, dicendo, ed ecco il loco,
Ove convien che di fortezza t'armi.
Com' i' divenni allor gelato e fioco,
Nol dimandar, Lettor, ch' i' non lo scrivo,
Però ch' ogni parlar sarebbe poco.
I' non morì, e non rimasi vivo:
Pensa oramai per te, s'hai fior d'ingegno,
Qual'io divenni, d'uno e d'altro privo.
Lo 'mperador del doloroso regno
Da mezzo 'l petto uscía fuor della ghiaccia:
E più con un gigante i' mi convegno,
Che i giganti non fan con le sue braccia:
Vedi oggimai, quant' esser dee quel tutto,
Ch' a così fatta parte si confaccia.
S' ei fu sì bel, com' egli è ora brutto,
E contra 'l suo fattore alzò le ciglia,
Ben dee da lui procedere ogni lutto.
O quanto parve a me gran meraviglia,
Quando vidi tre facce alla sua testa!
L'una dinanzi, e quella era vermiglia:
L'altre eran due, che s'aggiungéno a questa,
Sovr' esso 'l mezzo di ciascuna spalla,
E si giungéno al luogo della cresta:
E la destra pareva tra bianca e gialla;
La sinistra a vedere era tal, quali
Vengon di là, ove 'l Nilo s' avvala.
Sotto ciascuna uscivan duo grand' ali,
Quanto si conveniva a tant' uccello:
Vele di mar non vid' io mai cotali.
Non avén penne, ma di vipistrello
Era lor modo: e quelle svolazzava,
Sì che tre venti si movén da ello:
Quindi Cocito tutto s' aggelava.

Dante, Canto XXXIV., Inferno.

- Tolse*: Give the two infinitive moods of this verb.
Fe: How is this word more generally written?
Rimasi: Give the two participles past of this.
Uscita: Write the whole present tense of the indicative.
Dee: What are the other two forms of this person of the verb?
Parve: Give the whole present tense of the indicative.
Aggiungéno: Is this the usual form of this word? How should it be now otherwise written?

2. Translate into Italian:—

The progress of elegant literature and of the fine arts was proportioned to that of the public prosperity. Under the despotic successors of Augustus, all the fields of the intellect had been turned into arid wastes, still marked out by formal boundaries, still retaining the traces of old cultivation, but yielding neither flowers nor fruit. The deluge of barbarism came. It swept away all the landmarks. It obliterated all the signs of former tillage. But it fertilized while it devastated. When it receded, the wilderness was as the garden of God, rejoicing on every side, laughing, clapping its hands, pouring forth in spontaneous abundance, everything brilliant, or fragrant, or nourishing. A new language, characterised by simple sweetness and simple energy, had attained perfection. No tongue ever furnished more gorgeous and vivid tints of poetry; nor was it long before a poet appeared who knew how to employ them. Early in the fourteenth century came forth the Divine Comedy, beyond comparison the greatest work of imagination which had appeared since the poems of Homer. The following generation produced, indeed, no second Dante; but it was eminently distinguished by general intellectual activity. The study of the Latin writers had never been wholly neglected in Italy. But Petrarch introduced a more profound, liberal, and elegant scholarship, and communicated to his countrymen that enthusiasm for the literature, the history, and the antiquities of Rome which divided his own heart with a frigid

mistress and a more frigid Muse. Boccaccio turned their attention to the more sublime and graceful models of Greece.—(Macaulay's Essays.)

3. Italian idioms to be translated into their English equivalents:—

Ne corre voce.—Davvero non v'è da ridere.—Fatevi forza se volete riuscire.—Ebbe grido di galantuomo.—Me ne duole assai assai.—Non giovano le parole ci voglion fatti.—Egli cammina a stento.—Stento a crederlo.—Lo trassi in disparte.—Non me n'avvidi.—Fatevi in qua.—Questa non è da voi.—Così si tratta co' pari vostri.—Si vuole che sia partito.

Candidates for second or third-class certificates are required (1) to translate into English the following extracts, and (2) to answer the grammatical questions given below.

Federigo Borromeo, nato nel 1564, fu degli uomini rari in qualunque tempo, che abbiano impiegato un ingegno egregio, tutti i mezzi d'una grande opulenza, tutti i vantaggi di una condizione privilegiata, un intento continuo nella ricerca e nell'esercizio del meglio. La sua vita è come un ruscello che spiccato limpido dalla roccia, senza ristagnar nè intorbidarsi mai in un lungo corso per diversi terreni, va limpido a gittarsi nel fiume. Tra gli agi e le pompe, egli badò fin dalla puerizia a quelle parole di abnegazione e di umiltà, a quelle massime intorno alla vanità dei piaceri, all'ingiustizia dell'orgoglio; alla vera dignità e ai veri beni, che, sentite o non sentite nei cuori, vengono trasmesse da una generazione all'altra nel più elementare insegnamento della religione. Badò, dico, a quelle parole, a quelle massime, le pigliò in sul serio, le gustò, le trovò vere: comprese che dunque non potevano essere vere altre parole ed altre massime opposte, che pur si trasmettono d'età in età, colla stessa asseveranza, e talvolta dalle stesse labbra; e propose di prender per norma delle azioni e dei pensieri quelle che erano il vero. Per esse intese che la vita non è già destinata ad essere un peso per molti, e una festa per alcuni; ma per tutti un impiego, del quale ognuno renderà conto: e cominciò fanciullo a pensare come potesse render la sua utile e santa.

"Purtroppo!" disse Federigo, "tale è la misera e terribile nostra condizione. Dobbiamo esigere rigorosamente dagli altri quello che Dio sa se noi saremmo pronti a dare: dobbiamo giudicare, correggere, riprendere; e Dio sa quel che noi faremo, nel caso stesso, quello che abbiamo fatto in casi somiglianti! Ma guai, s'io avessi da pigliar la mia debolezza per misura del dovere altrui, per norma del mio insegnamento. Pure, è certo che, con le dottrine, io debbo dare altrui l'esempio, non rendermi simile al fariseo, che impone altrui impraticabili pesi, i quali egli non vuol pur toccare col dito. Or bene, figliuolo e fratello; poichè gli errori di quei che presiedono sono spesso più noti altrui che non a loro; se voi sapete che io abbia, per pusillanimità, per rispetto qualunque, trascurato qualche mio obbligo, ditemelo francamente, fatemi ravvedere; affinché, dove ha mancato l'esempio, sovvenga almeno la confessione. Dimostratemi liberamente le mie debolezze; e allora le parole acquisteranno più valore nella mia bocca, perchè sentirete più vivamente, che non son mie, che sono di Chi può dare a voi e a me la forza necessaria, per far ciò che prescrivono."—(Manzoni, I Promessi Sposi.)

GRAMMATICAL QUESTIONS.

1. Give the gender of nouns ending in *a* and in *o*, and the various exceptions to the rule in either termination.

2. Translate the following sentences, illustrative of comparatives and superlatives:—Better late than never.—The happiest of men.—Stronger than the lion.—She is as good as she is fair.—He is more learned than wise.—A very great danger.—We are less fortunate than you (are).—Light as a feather.

3. Explain the distinction of meaning between the demonstrative pronouns *quello* and *questo*.

4. Write the whole present tense of the indicative of

dire; the imperfect of *trarre*; the preterite of *sapere*; the future of *volere*; the conditional of *rimanere*; the imperative of *andare*; the present of the subjunctive of *sentire*; the imperfect of *essere*; the participle past of *condurre*, *prendere*, *morire*, *scegliere*.

(To be continued.)

INDIAN MAIL ROUTE.

Brindisi, the ancient Brundisium, was regarded of old by the Romans as the best harbour on the coast of the Adriatic, and was used as such in crossing to Dyrachium, on their way to Greece. In the fifteenth century, however, during one of the endless wars in Italy at that time, a prince of Taranto partly destroyed the port in order to keep his enemies out. Brindisi happens to be the Italian port the nearest to Egypt, to which railway communication has up to this time been extended. There is accordingly every probability that this port will resume its ancient importance, as the stream of the traffic between England and India is now being diverted to pass through Brindisi.

Owing to the completion of the Italian railways it became a question whether advantage might not be taken of them for changing the port of departure of our Indian mails from Marseilles to some Italian port, by means of which the uncertainty ever attending a sea voyage might be greatly diminished. Accordingly Captain Tyler, R.E., who had already reported for the Government upon the summit railway now in course of construction over Mont Cenis, on the central rail system, under the direction of Mr. J. B. Fell, was instructed by the Postmaster-General to examine the railways and ports of Italy with reference to the adoption of a new route for the conveyance of our Indian mails. During the summer Capt. Tyler has made the inspection, and from his report it appears that the present route now employed, measuring 853 miles from London to Marseilles, and 1,460 nautical miles from Marseilles to Alexandria, is, in point of distance, nearly the shortest that can be adopted; but as it is practicable to travel more than twice as fast on land as by sea, besides the lessened risk of delay, as soon as the railway down to the east coast of Italy was opened, it became clear that some port in the south could be advantageously substituted for Marseilles as the point of departure for the sea journey to Egypt. The nearest of these ports is Brindisi, 1,504 English miles from London by the Mont Cenis route, and 822 nautical miles from Alexandria. There would thus be a saving of 734 miles in the sea passage, and an increase of 651 miles in the land passage. There are two other ports, Otranto and Gallipoli, which are each 37 nautical miles nearer Alexandria than Brindisi; but the first has no protection for bad weather from a north-easterly direction, and no existing accommodation for a mail-packet station; and Gallipoli is subject to similar objections. Nor could Taranto well be selected for a mail station, as the Italian Government have determined to make it their principal military southern port; the weather, too, is frequently bad and the sea rough at its entrance, and Brindisi appears generally a much easier port to make. Another place on the Italian coast inspected by Captain Tyler is Reggio, which, though it has the advantage of being on the straight course of a steamer passing by the Straits of Bonifacio and the Straits of Messina, from Marseilles to Alexandria, is merely an open roadstead without protection, especially from southerly gales. Naples would seem to be a more desirable place, but for a steamer to call there, on its way between Marseilles and Alexandria, would increase its journey by 180 nautical miles as compared with the sea passage *via* Brindisi. The railway communication between Naples and the north of Italy is not yet completed. There is also no landing stage or pier at the Porto Grande, the commercial port of Naples. When railway communication is completed to Naples

via Foggia, or, still more, when it is complete *via* Genoa and Rome, Naples may become an important place of call for the steamers, but it can never compete with the Brindisi route, from the extra length of the passage.

The harbour of Brindisi consists of an outer port, 2,000 metres long by 1,000 metres wide, connected by a channel 260 metres long and 60 metres wide, with two inner arms, on the west coast of the Adriatic. The late operations seem to have been the first which have been tried since the injury caused to the port by the Prince of Taranto, with the view of clearing the channel of the consequent accumulations of sand. As showing the success of the late works, Captain Tyler himself observed some contract steamers of the Italian Government in this harbour which were then drawing from 13ft. 6in. to 14ft. of water. Other different works are being carried out, amongst which is a hauling slip for vessels up to 2,000 tons burthen, a quay 500 metres long, a breakwater 380 metres long, besides other harbour works, among which are 260 metres of quays, destined for the goods station of the railway. The most important of all for the purpose in hand are the excavations by dredging and the erection of a convenient landing stage. The Italian Government are ready to provide this accommodation by the spring of next year, should the British Government determine to forward the Indian mails by Brindisi; and thus, after a full consideration, Captain Tyler concludes that Brindisi is the best harbour on the south of Italy for a mail port.

The port would be approached by the mails running on the same lines as at present from Paris as far as Macon. The train would there diverge to take the line to Amberien, Culoz, Chambery, and St. Michel. Between the first two places especially the gradients are steep and the curves sharp; the permanent way is of the ordinary kind, but the joints have not yet been fished between Macon and Culoz. It now takes six hours and five minutes to travel on the line from Macon to St. Michel. The passage from St. Michel over the Mont Cenis, now performed by horses and mules, is regular enough in summer, but it is necessarily subject to serious interruptions in winter.

The summit railway over Mont Cenis, from St. Michel to Susa, is now being rapidly proceeded with. Messrs. Brogden and Co. are to deliver the 3,000 tons of permanent way for the Italian side before the last of September; and on the French side of the mountain the three bridges near St. Michel were far advanced, and are probably now finished. It was objected to Mr. Fell's line that it would be liable to suffer from snowdrifts and avalanches. At the most dangerous places masonry covered ways will be constructed, and timber covered ways for the lighter drifts or falling snow. The contract for the materials of the permanent way on the French side has been undertaken by the "Terre Noire" Company. Captain Tyler made some further experiments with one of the engines, and he sees "no reason to alter the favourable opinion he has already expressed on the principle."

He also inspected the works of the Mont Cenis tunnel. The great question as to when it will be completed depends on the thickness of the quartz, the quality of the strata at the other parts of the excavation, and the supply of money and labour. About 400 men, including some of the best workmen, were leaving for the Italian army at the very time Captain Tyler was there. It is, nevertheless, possible that the tunnel may be completed by May, 1871; but then approaches on each side have to be constructed, so that "the shortest time, looking at the matter itself in an engineering point of view," will be at the earliest towards the end of 1871; "and it is impossible to calculate at present upon the future financial condition of Italy, and the effect it may have upon the works." On its completion, however, mail trains will be able to run from Calais to Brindisi for 1,390 miles, without break of gauge, in about fifty-four hours.

Captain Tyler calculates that the eastern mails could be taken from Macon to Alexandria, over the Brindisi route, by the summit railway with Mr. Fell's engines, in 123 hours 8 minutes; and that the whole could be brought into operation by the 1st of June next year. The mails could thus be punctually conveyed between London and Alexandria within 150½ hours; and when the tunnel and permanent line between St. Michel and Susa are at work, in 147½ hours. Then would come the necessity for sleeping carriages during the fifty-four hours, without stoppage, from Calais to Brindisi. And in answer to an inquiry of our Board of Trade inspector, the Italian Government have offered to convey the passengers in carriages of the kind at the low rate of fifteen centimes per kilometre. As, until the completion of the main line, the mails will have to be transferred at St. Michel and Susa, from the 4ft. 8½in. to the 3ft. 7½in. gauge, and *vice versa*, Captain Tyler proposes that the mail bags be enclosed in large water-tight chests, to be shifted by cranes at the different places of transfer. It was attempted to use bags instead of smaller boxes, shifted by hand labour; but last year, when the cholera was raging in Egypt, these sacks were thought to carry the infection more readily than boxes. Some 325 boxes of wood or iron have now to pass monthly through France to the East, and they are necessarily often thrown about with great violence. The use of cranes and larger packages seems a very practical proposal.

In concluding his report, Captain Tyler points to the yet greater saving of time and distance that will be obtained when a railway shall be constructed along the Euphrates Valley to the Persian Gulf. Several hundred miles and entire days would be saved in the passage from London to Bombay. Then the navigation of the Persian Gulf to Bombay—easier by far than that *via* Suez and the Red Sea—would be obviated by the connecting together of Bagdad to Bombay by rail. On account of the insufficiency of the guarantee of the Turkish Government, from the weak financial state of the empire, the Euphrates Valley Railway scheme has been in abeyance for some years.

SPECIAL EDUCATION IN FRANCE.

ARCHITECTURE.—The educational session has just closed and the annual prizes distributed, under the presidency of the authorities belonging to the departments of the Beaux Arts and education. A sad bereavement, the second within a very short period, has robbed those interesting meetings of the simple but fervent addresses of the indefatigable Minister of Public Instruction, M. Duruy, but his spirit has not been absent. In all quarters there is evidence of a watchful determination to render education of all kinds as sound and effective as possible; the moment any deficiency is discovered in the system means are taken to supply it, no preconceived idea, no prescribed form, no hesitation is permitted to stem the course of reform in these important matters.

The new central school of architecture, the establishment and progress of which have been duly recorded in the *Journal*, is doing good work in rendering the training of youths intended for architects more systematic and complete; but the very completeness of the plan creates difficulties in carrying it out, and the observation of these difficulties offers valuable hints for all the world. It has been found, on examination of candidates for admission, that many youths of good abilities have failed to satisfy the requirements of the school, not for want of ability, but because they have not sufficiently appreciated the importance of the preliminary knowledge required of them, or, in other words, for want of sufficient general instruction to enable them, according to the opinion of the examiners, to enter upon the special portion of their education with advantage. In order to prevent such failure in future, the council of the school has just issued a note on the method employed at these preliminary examinations. The candidates are submitted to three

examinations:—1. Proficiency in drawing from copies and in architectural drawing entitles the candidate to a certain mark in each case, and the average of the two marks, which are represented by numbers indicative of the amount of that proficiency, gives the value of general proficiency in drawing. 2. The mathematical examination is divided into seven questions, each of which gives a mark, and the average of these marks, as in the former case, indicates the position of the candidate in mathematics. 3. The written literary examination and the oral examination in geography and ethnography give two marks, and the average of the two indicates the candidate's acquirements in literature. The average of the three marks thus obtained gives, of course, the candidate's general proficiency, and it moreover determines his classification on entering the school. The direction of the school has evidently no idea of lowering its standard of admission, and of thus allowing its special object to be thwarted by the general incompetence of any youths admitted within its walls. The importance of thus insisting on the necessary amount of previous training cannot be too generally enforced; its neglect has too often proved a fertile source of mediocrity.

FINE ART AS APPLIED TO INDUSTRY.—The same spirit of reform that is exhibited by the Council of the new school of architecture appears in connection with the old school of drawing, mathematics, architecture, sculpture, ornamentation, and wood engraving, as applied to industry.

Important alterations are announced in the address of the Count de Nieuwerkerke, who lays special stress on the necessity of general cultivation previous to special training. In fact, according to the statement of the Count himself, who was formerly a pupil in the school and afterwards professor there for twenty-five years, the whole course of its studies is to be gradually reorganised under his direction. The teaching of drawing is to be dealt with immediately; drawing from memory, which has hitherto been only practised experimentally and very partially, is to be made a regular part of the course of instruction, as peculiarly adapted for the development of the faculties of attention and observation. The success which has attended this method in the case of a small class of pupils is declared to have been remarkable. For some time an *atelier* has been attached to the school for testing a method which originated with Count Nieuwerkerke himself; this *atelier* will in future become an integral portion of the school; it will form a kind of senior class or upper school in which all the studies of the regular course will be, as it were, combined and epitomised, and it will be equally applicable to those pupils who are intended for artists, artisans or teachers. The latter will form a special class, and will be instructed in the methods of conveying information, which they will have the opportunity of putting into practice in the classes of the school itself. The *atelier*, as it is called, will, in their case, become a normal school, and its pupils will eventually receive a professional diploma. Means are also being taken, to quote the Count's words, "to open more and more the road to the artistic industries, in developing the study of decorative figures, flowers, plants, ornaments, carving and engraving, and to prepare young men for the various trades and professions which are connected with architecture, masonry, and carpentry, or which require the application of mathematics." Each of these studies will be encouraged by various prizes.

These are not solitary or accidental cases, but instances of the attention which is now being given to the improvement of all branches of education, general and special, in France.

Manufactures.

INTERNATIONAL EXHIBITION OF HOPS AND BEER.—An exhibition of hops, of beer, and of everything relating to

the cultivation of hops and the manufacture of beer, will be held at Dijon, at the Hôtel de Ville, from the 10th to 15th October, 1866. The producers, brewers, and manufacturers of brewing utensils of all countries are invited to take part. The demands for admission are to be sent in, before 15th September, to M. Ladrey, Secretary to the Central Committee of Agriculture of the Côte d'Or, at Dijon. The articles for exhibition will not be received later than the 8th October. The duties of the jury will commence on the 11th October, and continue for the following days. The distribution of prizes will take place on the 14th, and the exhibition will be closed on the following day at 4 p.m.

CONFERENCES AT THE IMPERIAL ASYLUM OF VINCENNES.—The asylum for convalescent workmen at Vincennes, established under the patronage of the Empress, is one of the most interesting, benevolent, and useful institutions which have been inaugurated under the present reign in France. The situation of working men, between the time of rising from a bed of sickness and that of complete restoration of health, is one of no ordinary difficulty and danger. Enforced idleness is always surrounded by temptations, and, in the case of the less cultivated classes, want of means adds an additional cause of evil. In the asylum alluded to convalescent workmen enjoy proper and regular meals, pure air, and means of instruction and recreation. In April last it was determined that lectures, or conferences, on subjects specially interesting to the class to which they were addressed, should be delivered three times a week in the asylum, and the course was opened by the Archbishop of Paris; the other gentlemen who have lent their aid to the good work are mostly all known to the scientific world, and include MM. Baudrillart, Daubrée, Delaunay, Joseph Garnier, Janet, Morin, Payen, Perdonnet, de Quatrefages, Simonin, Waddington, and Wolowski. The conferences are under the direction of a commission, appointed by the Minister of the Interior. A discourse, delivered by M. Baudrillart, on the life of Jacquard, the famous weaver of Lyons, has attracted great attention; the reputation of the professor, and the peculiar fitness of the subject to the circumstances under which it was delivered, render this in no way surprising. The lecturer dwelt especially on the difficulties which surround humble inventors, or rather inventors in humble stations in life, and on the effects of the introduction of mechanical contrivances into manufactures. "Whence came," asked M. Baudrillart, "before 1789, the persecution against inventors, machines, new processes, and their authors? From the regime of monopoly in industry, from privilege. The system of corporations in arts and manufactures which reigned everywhere, in all professions and callings, under all kinds of forms, was incompatible with the spirit of invention. Invention was an act of sedition on the part of the human mind, a revolt against the wisdom of our ancestors, who believed they had provided for all emergencies by regulating everything. To each corporation belonged the exclusive right in this or that manufacture, sale, process, or instrument, secured by penalties of the severest kind. Woe to the daring innovator who should attempt to interfere with this order of things. If anything should cause surprise with such a system, it is that there should have been any invention at all. It was by special favour or by tolerance that invention slipped in from time to time under the protection of royalty, which thus conferred that very form of privilege which was so fatal to itself." Then, turning towards another phase of the subject, he added:—"When Jacquard invented his famous loom a change had come over everything. The National Assembly had enfranchised labour, and given full liberty to industry and to inventors. Opposition could not then arise from privilege, which had been disarmed and destroyed. Whence came it, then? Here we have to look to a painful spectacle. Invention only asked for liberty; it was liberty that persecuted it. This, happily, did not always

happen. Generally free labour gave the inventor a good reception, but not always. Liberty has its ignorances and its persecutions. It is of these that she must cure herself, if she would be safe and fruitful. People overlook the fact that liberty of labour has its risks. Its benefits are eagerly sought without reflecting upon the difficulties which may have to be encountered. Thus we find leagues formed, not only of masters and inventors against other masters and inventors, but of workman against a workman—their brother in toil and poverty. Sad spectacle! The people, turning as it were against itself, at the moment when the *auréole* of invention begins to shine around the head of one of their own class, find nothing but threats of death to offer him." Jacquard lived to the age of eighty-two years; he was born at Lyons, in 1752, was in full manhood in the time of Louis the Sixteenth, and died in 1834, in the reign of Louis Philippe. His first recorded invention was that of a machine which produced, in a few minutes, a knife which took four men a whole day to produce. This machine was destroyed by the cutlers, who looked upon it as the destruction of their business. The father of Jacquard was a weaver of embroidered fabrics, and his mother a pattern reader, and the mind of the young inventor was early at work to simplify these operations. But the silk manufacture fell into a miserable condition, and young Jacquard, now a married man, was reduced to stoke the fires of a lime-burner for his bread. During the revolution and the convention he was a soldier, and his only son fell mortally wounded by his side at Haguenau. When peace was restored in France, and the silk-trade was resuscitated, Jacquard was fifty years of age; he set to work ardently to carry out his idea, and substitute for the drawboy the beautiful system of automatic pattern cards, which bear his name. At an industrial exhibition, held in 1801, and at which the celebrated statesman, Charles James Fox, was present, the Jacquard loom won for its inventor a bronze medal and a patent of ten years' duration. About the same time he invented a machine for making fishing-nets, which earned him a large gold medal, and his native town paid him distinguished honour. Soon after this he was sent to Paris by the Prefect of the Rhone, and was employed for two years in repairing and arranging the machines and models in that establishment. Here he invented a loom for weaving velvet ribbon with a double face, and a system of weaving cotton with two and three shuttles. Amongst other things he repaired the automatic loom of the famous Vaucanson, which performed the same work as the Jacquard, but less expeditiously and at greater cost. (The two machines may now be seen together in one case in the Conservatoire des Arts et Metiers.) In 1804 his machine was adopted by a manufacturer of Lyons, and in 1806 an imperial decree authorised the municipal authorities of Lyons to purchase the invention for the public, and to give Jacquard an annuity of £120, with a reversion of half the amount to his widow. It was not long, however, before popular clamour rose up against him, which frequently placed even his life in jeopardy. His latter days were spent in tranquillity; he retired to a modest cottage at Oullins, near Lyons, where he occupied himself principally with his garden, wearing, with legitimate pride, the Cross of the Legion of Honour on his breast, and his medals suspended as trophies against the wall of his little room. The story of Jacquard is at once painful and pleasing, and was eminently calculated for relation by a savant and an economist to an audience of working men, reduced for a time to inactivity by accident or ill-health.

Colonies.

SHEEP DISEASE IN NEW SOUTH WALES.—The scab, which, at different times, has caused much havoc among the flocks in the interior, has now fortunately almost

disappeared from the colony. The only sheep now under license—a small flock of 1,300, on the Bojan—have been under the inspection of one of the scab inspectors for one month past, and his report to declare them clean is daily expected. The last lot of sheep destroyed were those burnt on one of the islands down the harbour early in the present year, since which time the disease has not appeared, except on two pet sheep in one of the northern districts, and these were immediately destroyed. This happy consummation has been the result of active exertions of the scab inspectors of the different districts of the interior. By the careful watch they keep over travelling sheep they have prevented the disease from being disseminated, as it is a well-known fact that a whole line of country has in former times been infected, and the flocks decimated by one single flock of unclean sheep having passed through it. These inspectors have to be constantly on the alert, as the number of sheep travelling about the country in search of grass or water is without parallel in the pastoral history of the colony. The runs are now all so heavily stocked that they will not bear in a bad season the amount of stock placed upon them. The consequence is that the feed and the water runs short, and the animals are on the point of starvation; to save them the lessee of the run travels them, takes them to some place two or three hundred miles away, and back again, supporting them on the grass another squatter pays for. By the Impounding Act sheep are allowed to feed upon the grass for half a mile on either side of the road, and this limitation, with the necessity of travelling six miles a day, is considered better than leaving the flocks to starve upon their own bare and overstocked runs. It was estimated about the middle of May that something like 150,000 sheep were travelling round and about the New England district alone, the plains of the lower country to the westward being absolutely bare. Two years ago there were 300,000 scabby sheep in New South Wales. In Victoria the same disease has been in existence for the last fifteen years, after the peculiar manner in vogue amongst her neighbours, and there are now almost millions of scabby sheep within her borders.

RAILWAYS IN MELBOURNE.—An annual report has been issued by Government on the railways, which is in all respects satisfactory. The railways are now paying a net dividend of $4\frac{1}{2}$ per cent. The Government lines have, in the aggregate, cost nearly nine millions sterling, and they could now be constructed for six millions. The gross increase of receipt during 1865 on all the lines was £69,939, and the increased cost of working, £13,000. At all the stations excepting Sandhurst the traffic has increased, more particularly at the wayside stations, thus showing the growth of an intermediate traffic, which will beneficially influence the future revenue. The goods traffic has also increased. In 1861 it was 43 per cent. of the whole, now it is $56\frac{1}{2}$ per cent. The Murray line showed an increase during 1865 of £50,000, which was mainly owing to the Echuca extension. The Williamstown branch showed an increase of £284,000, and the Ballarat of £20,000.

LAND IN VICTORIA.—Up to the 31st Dec., 1865, 5,337 persons had availed themselves of the lending clauses of the Land Act, and had taken up under it 1,546,257 acres, or an average of 290 acres each. 1,573 certificate holders had selected an average of 179 acres each. Since the Act was brought into operation 257 agricultural areas have been proclaimed, containing 3,847,303 acres, of which 1,827,235 acres have been selected; 177,245 acres have, for various reasons, been withdrawn, and 1,342,823 acres remained open for selection on Jan. 1, 1866. The minimum price which Government will receive for land alienated under this Act is £1 4s. 6d. per acre. As showing the vigilance exercised by Government officers to prevent evasions of the Act, it may be noticed that 414 applications for leases were disallowed on the ground that the applicants were either

agents for others, or had agreed to sell their interest in the land, but eight of these refusals were afterwards revoked, upon satisfactory evidence being produced. The twenty acre clause, which has been brought into operation in the neighbourhood of the gold fields, appears to have been very successful. The applications for licenses under it were 2,810, of which 1,698 were granted, after being investigated by the Commissioners appointed to inquire into them. The whole appearance of some of the gold fields is being altered by the industry of these small settlers, and the best results may be expected to follow the persevering habits which must be induced by the possession of a home. The annual revenue derivable by the State from licenses of this description granted prior to 31st Dec. last was £5,094.

THE TEA PLANT IN AUSTRALIA.—"The important experiment of testing the climate and soil of South Australia, as regards their suitability for the China tea plant," says the *Register* of the 18th June, "is about to be made on a somewhat extensive scale. The government have agreed to pay Mr. Sterndale, who recently brought a quantity of tea seed to the colony, the sum of £50 for one hundred weight of the seed, and they have instructed Dr. Schomburg, superintendent of the Botanic Garden, to sow and distribute it, with the view of fairly testing its adaptability to this country. Accordingly, it has been determined by the governors of the Botanic Garden that one-half of the quantity shall be sown in the grounds of that establishment, and that the other half should be distributed in various parts of the colony."

Notes.

ROYAL CORNWALL POLYTECHNIC SOCIETY, FALMOUTH.—The thirty-fourth annual exhibition of this Society opens on Friday, the 14th inst. (this day), and continues open about a week. Medals, and prizes in money, will be awarded to the following objects:—Machinery and models, mechanical and other scientific inventions and improvements, specimens of naval architecture, natural history, scientific papers, specimens of ornamental art, and to all objects of interest connected with mechanics, science, and the fine and industrial arts, which are considered deserving by the judges of the various departments. It bids fair to exceed in interest and attractiveness any of its predecessors, which—when we consider the comparative remoteness of the locality, and the fact that the exhibitions have been held annually for thirty-four years—says much for the continued zeal and ability of the officers and promoters of the society. The show of models in the mechanical department will be unusually extensive and interesting, prominent among which will be elaborate models by Mr. E. T. Vyvyan, showing the complete system of gold dressing in Australia and California, together with models of the diggers, tents, &c., the whole occupying a space of fifty feet in length; a very magnificent set of models of the mine machinery of Devon Consols has also been forwarded by Mr. Thomas Morris, the managing director, and will be shown in operation. The Art Collection will also be very attractive, comprising works by Egg, R.A., Collins, R.A., Haynes, Williams, Montague, Smallfield, Hart, R.A., Mitchell, Tidey, and others; and two magnificent works, "Eurydice," and the "Fate of Icarus," by Thompson, R.A. Mr. Sidney Hodges's presentation portraits of the Mayor of Penryn and of Captain John Richards will also be exhibited, together with the portrait of the Venerable Bishop of the Diocese, which was painted for Miss Burdett Coutts, and attracted so much notice in the recent exhibition of the Royal Academy. An attractive programme of lectures has also been prepared. Altogether there is every prospect of a most interesting exhibition.

AWARD OF ROYAL EXHIBITIONS.—The Royal Exhibitions to the Royal School of Mines, Jermyn-street, and the Government School of Science, Dublin, consisting of £50 a-year for three years, and free admission to the respective schools, which are awarded by the Science and Art Department after the May science examinations, have this year been awarded as follows. Those to the Royal School of Mines, to German Green, aged 14, monitor at the Lower Islington Public School, and Frederick J. M. Page, aged 17, son of a carriage builder, London. Those to the Government School of Science have been gained by Charles G. Stewart, aged 16, chemist, Camden-town, London; John McAllan, aged 22, chemist's assistant, Dublin; and Stewart Williamson, jun., student of the Royal College of Chemistry, London.

ADULT EDUCATION IN FRANCE.—At the recent distribution of prizes to the pupils and students of the communal schools of the eleventh arrondissement of Paris, M. Charles Robert, Secretary-General of the Ministry of Public Instruction, dwelt with natural pride on what has been done during the past twelve months in that country for the instruction of adults. It was difficult, he said, to imagine the trouble and sacrifices which had been required to establish 25,000 adult classes in the communal schools of France. The results were given by M. Robert as follows:—"From November, 1865, to March, 1866, 30,000 teachers, male and female, taught 25,000 classes of adults, containing a total of 600,000 students; 250,000 illiterate persons were taught to read, write, or cypher. Of the whole number of students 117,000 paid in all a sum of 415,000 francs for their instruction; 15,000 teachers gave their services gratuitously; and 4,000 others subscribed 91,000 francs towards the expenses. The Communes of France gave 650,000 francs towards the work; the departments, 72,000 francs; and the friends of instruction, 125,000 francs." In all £37,520 expended by others, and £16,600 by the illiterate themselves, for the education of adults in five months. Well might M. Robert say:—"The year 1866 is that in which the grand corner stone was laid, and if I had to write an inscription for the plate which it is the custom to fix in a foundation stone, I would simply inscribe the figures just given."

TRACTION ENGINES.—A train drawn by a locomotive on the common roads has recently arrived at Paris. The following details will be read with interest:—The locomotive has a tubular boiler, carries a tender, a water-tank, and foot-plate in front of the engine. The engine is on the top of the boiler; it has two cylinders, with reversing gear. It is worked from the front, by means of a guide-wheel, which is moved by one man; it works with ease and perfect regularity; it can turn in curves of a very small radius, and can follow all the windings of the road. This engine, travelling on a level road, or on one that presents no gradients of more than three per cent., draws an actual load, after deducting the weight of the waggons, of 12,000 to 15,000 kilos., or from twelve to fifteen tons, at a speed of four to six kilometres, or from $2\frac{1}{2}$ miles to $3\frac{1}{4}$ miles per hour. It draws at high speed, that is to say, 14 to 16 kilometres per hour, or nine to ten miles, a clear weight of 1,000 to 4,500 kilograms, or from one to four tons and a half. The waggons are coupled one to another as well as to the locomotive, and by a mode of coupling which allows them to follow all the movements of the engine however much it may deviate from the straight line. The engine stopped at a great number of places on its journey from Nantes to Paris, in order to satisfy the public curiosity.

DISTRIBUTION OF PRIZES TO THE RURAL ELEMENTARY TEACHERS AT TURIN.—The sixth distribution of prizes to the rural teachers by the praiseworthy Società degli Insegnanti took place in the large hall of the gymnasium of Saint Francesco, in the Via d'Angennes, at Turin, on 29th August, under the presidency of Professor Bianchi. These prizes were for both male and female teachers

who had shown themselves deserving of them by good conduct and zeal in their duties.

PARIS EXHIBITION, 1867.—The Imperial Commission having learned that a certain number of plans, more or less exact, of the palace and park of the Universal Exhibition of 1867, are being sold, give notice that the plans of the Exhibition are, up to the present time, the exclusive property of the Imperial Commission. The Imperial Commission, therefore, puts the public on its guard against numerous errors in these published plans. It will be forced to prosecute, or allow to be prosecuted by interested persons, any one who, without an express authorisation, thus makes use of any plan or drawing of the Exhibition.

MACHINE FOR SHELLING PEAS AND BEANS.—Mr. Price, an American engineer, has just invented a very simple machine for shelling peas and beans. It consists principally of a rolling mill; the rollers are covered with india-rubber, fixed on a wooden support, and driven by a crank. At the bottom of the compartment where the rollers work there are holes which let the peas drop into a drawer situated underneath the machine. In working this mill the husks or shells are drawn in and compressed. This compression bursts them, and forces the grain to fall on one side of the machine, whilst the shells pass across it and fall on the other side. It would seem that this machine might find a use, not only in the kitchen, but in chemists' and druggists' shops.

FEMALE DOCTORS.—Last year, after honourably passing two examinations for the Baccalauréats ès Lettres and ès Sciences, at Montpellier and at Algiers, a young lady was authorised by the Minister of Public Instruction in Paris to go through a preparatory course of medicine in Algiers, as her medical attendance might be of great relief to the Arab population, and through her the boon of medical science might penetrate the tent and harem of the Arab, where no male doctor would ever be admitted. In addition lately another lady has passed her examination as midwife, and has obtained permission to offer herself as candidate for examination at Paris for the degree of doctor of medicine.

COLLECTION OF CARRIAGES IN THE MUSEUM OF CLUNY.—An annex has been built in the garden adjoining the Rue des Mathurins St. Jacques for the reception of the collection of carriages in the Cluny Museum. This building communicates with the gallery of tapestry by means of a corridor of the ancient Palais des Thermes. Commencing at the extreme right, the first object that strikes the eye is a sedan chair, the panels of which are ornamented with garlands of flowers and landscapes painted on a ground of gold. Immediately after is exhibited a sleigh, in red Utrecht velvet. In front of this vehicle there is a winged genius; the outside corners are embellished with caryatides, and the dolphins carved at the end would make it appear to have once belonged to some heir to the crown. On the front of the equipage are exhibited the boots of the postilion, immense strong leather leggings. The harness, which is hung on the wall, is not the least curious; it is made of thongs of leather forming a large net-work, that covers the horses from the breast to the tail. Each crossing is furnished with flowers in gilt copper, and the collars, in the same metal, are open worked. Near it is a saddle, in white leather, quilted with the greatest care, the stirrups of which are padded with the same kind of leather. Farther on may be seen another sedan chair, the panels of which, covered with a light green glazing, are ornamented with baskets of flowers, with escutcheons, and an M formed of garlands hung from the beak of a dove. Next is a sort of Tilbury, not hung, but fixed on an under-frame, with straight shafts; the wheels are placed behind the body. This attempt at modern carriage building is richly decorated, painted red, and ornamented with gilding. It certainly once belonged to some great personage, in spite of its want of comfort; but it must be remembered that it was not until the reign of Louis XIII. that carriages

hung from supports were begun to be built in France. Germany was much more advanced in this matter than France, for in 1457 the ambassadors of Ladislaus V., king of Hungary, offered to Queen Mary, wife of Charles VII., a *chariot brulant*, or swinging, and very rich, in which we may recognise a hung carriage. A little more than a century later (1562) the Marshal de Vieilleville, being sent as ambassador by King Charles IX. to the Court of Vienna, the Emperor made him a present of a coach, which was considered in France as a wonder. It was a carriage lined with velvet, and drawn by four Turkish horses, white as snow, and having their tails and manes dyed red. This equipage was driven by a Hungarian coachman, who, as well as the footman, was dressed in the costume of their country, but in the colours of the marshal, which were black and yellow; the dress of the coachman was velvet, while that of the footman was less rich. We next come to a large gala carriage, on four wheels, ornamented with paintings, with gildings, and with designs carved in high relief. The interior is lined with figured silk, and in front of the coach box a panel decorated with a golden crescent, surmounted by an eagle, holding a laurel branch in his claws. The harness of this equipage is for six horses, in white leather, worked with silk. Another four-wheeled carriage is exhibited close by. This one shows by the style the make of carriages under Louis XIV. Carving and gilding are in great profusion; the spokes of the wheels are shaped as balustrades, and the panels are ornamented with subjects by some skilful hand, but they have been awkwardly cut in inlaying with copper. After this cumbersome machine we come to a light sleigh, where elegance and comfort are combined. The vehicle represents a golden dragon, from one end to the other, on runners. The body of this dragon, hollowed out and lined with blue silk, forms a coquettish seat, and the doors are the wings of the animal. On its tail, which "twists in tortuous coils," is placed seat of the driver, and his feet find a place in soft slippers fastened to the front. There is also to be seen a carriage of the eighteenth century, much less gilded than the preceding one, but also in better taste, although the under framing is too heavy. The panels are decorated with fantastic landscapes, cupids, dolphins, tritons, and mermaids sporting on an ocean that foams under an aventurine atmosphere. Another carriage, of about the same period, has its panels decorated with mythological subjects—Daphne changed into a laurel, Diana and Endymion, Minerva and Neptune disputing the patronage of Athens, the struggle of Apollo with the Satyr Marsyas, and finally the Judgment of Paris, being the principal subjects of this decoration. A very curious vehicle, as regards shape and historical relation, is wanting to this collection—it is that in which Louis XIV. fled from Paris on the 21st June, 1791. This enormous Berline had a salon, a bedroom, a wardrobe, a dining-room, and kitchen. "It wanted nothing," says Mercier, from whom these details are taken, "but a chapel and orchestra of musicians." This carriage is preserved in Sweden by the descendants of M. A. Ferzen. The exhibition of carriages does not offer much of interest to archæology, because there the equipages are comparatively modern, but the saddler, coach builder, the ornamentist, &c., may find it a subject worthy of serious study.

TELEGRAPH IN SOUTH AMERICA.—A Commission has been sent to Europe from Peru by the last mail charged with making arrangements for establishing a telegraphic line across Ecuador, Peru, Bolivia, and Chili.

Correspondence.

SNAKE BITES.

The following letter has been addressed to the Secretary of the Society of Arts; the bottle referred to has

been received, and may be seen at the Society's house:—

SIR,—Allow me to write to you concerning a bottle of a remedy for snake bites, which Mr. Russell, our Auditor-General, who leaves Trinidad to-morrow for England, has kindly promised to hand to you on his arriving in London. So many such remedies have been proposed, and tried with more or less success, that I feel a little hesitation in contributing, in my turn, to the already very large stock on hand. In my constant rambles through our virgin forests, and in my surveys of many of our swamps and rivers, either as director of forests or inspector of roads, I have always felt a lively interest in the study of venomous snakes, and have endeavoured to gather all the information possible concerning their habits, and the antidotes used here, more particularly by the native Indio-Spaniards, and by the immigrants from the neighbouring coast of Venezuela, as well as by the imported Africans.

In 1846, after a severe attack of swamp fever, caught in the survey for a proposed railway through one of our most unhealthy marshes, I was sent to Martinique for change of air, and lost no time in getting introduced there to the late Mr. Barillet, the then Director of the Botanic Gardens. He was a great collector of serpents, and was said to possess a specific remedy, which defied the deadly bite of the *Trigonocephalus lanceolatus*, so common and dreaded in that colony. When I called on him, in the forenoon, Mr. Barillet was absent in search of some of those snakes, but he soon returned with three splendid live ones. In the course of conversation, and after he had told me that he always went alone "*à la chasse aux serpents*," I asked him whether he really had some infallible remedy, as was reported. He smiled rather complacently, and showing me on his right thumb several unequivocal marks of "fangs," answered me that his recipe was as simple as it was certain; that it was merely to suck the wound and afterwards apply to it a little ammonia; and that, in fact, to prove its efficiency, he had one day, in presence of many persons, purposely got his thumb bitten by a *Trigonocephalus*, without any accident resulting from the wound, after it had been well sucked. On my asking him, however, how, when alone in the woods, and far from any settlement, he could use his recipe so easily if he were bitten in the back; he suddenly grew pale, and, with a somewhat faltering voice, confessed that the thought had never struck him before.

Shortly after my return to Trinidad, I tried the suction in the case of a young woman who had been stung high in the thigh by a large black scorpion, and who was in great pain, with cramps, and vomiting severely. On her daughter applying her lips to the wound, and sucking it in right earnest, the patient almost immediately ceased vomiting, the pain and cramps disappeared, and she soon fell quietly asleep.

I had no opportunity of myself trying this experiment with snake bites, but it was tried last week, near our Pitch Lake, with complete success by my son, upon one of his men, who was bitten about noon, on the left arm, by a "mapipire" (*Crotalus mutus*), one of our most deadly snakes. About ten minutes after the wound had been inflicted, the labourer (a black man) was in great agony, and was seized with cramps and vomiting. My son at once made, with a lancet, a small incision in the wound, and had the part sucked, while half a tumbler full of an infusion, in rum, of Guaco (the *Micania G.*, not the *Aristolochia*), was at the same time administered internally. The pain, cramps, and vomiting gradually subsided; a little ammonia was then applied to the wound, and within half-an-hour the man fell fast asleep, and on his awaking some four or five hours afterwards he was weak, but felt no other effect but a sort of general numbness, which disappeared completely the next day. On the second day after the accident he was able to resume his work.

In the number for the 19th December, 1856, of the *Journal of the Society of Arts*, there is a very interesting communication from Mr. Squier, on the "Remedies for the bites of snakes," followed by a no less interesting extract from Dr. Woodhouse's account of his own case when bitten by a rattlesnake. Being myself very fond of collecting snakes, which I often catch alive, I carefully read those articles, and am glad to say that I fully agree with Mr. Squier in all that he states about reptiles, &c.

I now come to the remedy which I send you through Mr. Russell, and which is the air-root of a *Philodendron* (most commonly found in all our forests) pounded and infused in rum. A respectable old settler, by the name of Toussaint Ferrier, commonly known as "Old Solido," for upwards of forty years, living at Guayaguayare, near Point Galeota, at the south-eastern corner of this island, some time ago showed me this remedy. He himself and several of his sons had been more than once bitten by mapipires; the marks of the fangs were clearly shown to me on their legs and arms, and, in every case a complete cure was almost instantly effected by the use of this root. One of their dogs, whilst hunting, was also bitten by one of those snakes, and was already, to all appearance, at the point of death, when the remedy was applied, and the animal soon rallied, and was shortly "all right again." An old neighbour of "Old Solido," called Nelson, who had been bitten by a mapipire, and who, whether from disgust at the manner in which the remedy is administered, or from fear of the poisonous nature of the plant, had obstinately refused to try it, was saved, in spite of himself, by this specific. After having been for some time in a dreadful state of convulsions, cramps, and vomiting, he at last fell into a state of collapse, and was dying fast, when "Old Solido" forced down his throat a large dose of his mixture, and also applied some to the wound. It fortunately had the usual success. The dying man slowly but gradually rallied, and in the course of a few days got completely cured.

I could mention several other instances in which this root has really effected astonishing cures. In all the cases which I have quoted above, the snakes were killed immediately after inflicting the wounds, so that there can be no doubt whatever as to what species they belong. I am not aware that this specific has ever been tried for the bite of any of our other deadly snakes, such as the "cascabella" (*Trigonocephalus jararaca*), and the "cora snake" (*Elaps corallinus*).

The manner in which it is used by "Old Solido" is as follows:—He cuts off from the lower end of one of the roots three small pieces, each about two inches long, bruises it roughly with the handle of a cutlass, steeps it in urine, and administers it internally, at intervals of about twenty minutes each, in three doses of about a wineglass full each time, applying, at the same time, some of the mixture to the wound. Urine is probably used from its being always at hand, whilst spirits are not always to be got in the woods; but I suppose an alcoholic infusion of the root would do just as well, besides being less repulsive.

If you think that it is worth being tried scientifically in England, as I believe it really is, with a view to ascertain whether it might not be found successful against the bites of other serpents besides the mapipire, I hope you will be good enough to originate the necessary experiments. For my part I shall be most happy to send you, if wanted, any quantity of samples of the article which you may require for the purpose.

It having been already demonstrated, if I mistake not, that the virus of infectious fevers is closely approximating to snake poison, may not this root prove useful also in some variations of typhus and other fevers participating of a putrid character?—I am, &c., SYL. DEVENISH, Sec. of Trinidad Corresponding Committee of the Soc. of Arts.

Port of Spain, Trinidad, 23rd April, 1866.

Patents.

From Commissioners of Patents Journal, September 7th.

GRANTS OF PROVISIONAL PROTECTION.

Agricultural implements—2076—J. Halliwell.
 Armour plates, jointing and connecting—2038—J. Benson.
 Bale fastenings—2117—A. V. Newton.
 Banding or twine, manufacture of—2074—E. Whalley.
 Battens—2102—J. Cooper.
 Beds for horses, &c.—2130—T. Henderson.
 Beryl wheels, forming teeth of—2010—P. Murray.
 Boiler tubes, fastening—2082—A. V. Newton.
 Bridges, construction of—2022—E. Lamb.
 Bricks and tiles—2081—E. Page.
 Bottle-stoppers, securing—2134—C. Bathoe.
 Buckles—2057—W. E. Gedge.
 Buckles—2122—B. F. Weatherdon.
 Carbonates, bi-carbonates, and insoluble silicates of soda, potash, and muriatic acid, obtaining from chlorides of sodium and potassium—2026—W. E. Newton.
 Cartridges, central fire, for breech-loading fire-arms—2126—J. Abraham.
 Caustic soda, producing from common salt—2077—S. Rowbotham.
 Carding engines—1998—G. T. Bousfield.
 Chains, flat-linked—2012—W. Hartcliffe and T. H. Lee.
 Churns—2000—J. G. A very.
 Coal-wagons, wheels of—2103—H. A. Bonneville.
 Colouring matters—2153—H. Caro.
 Cotton, &c., carding—1988—C. N. Plantrou.
 Cotton, cleaning and preparing—1296—F. Waddington.
 Doors, &c. (sliding) working with spring rollers—2089—H. J. Petty and C. F. Sayer.
 Drilling machines—2087—S. Alley.
 Elastic fabrics—2100—W. Shaw and J. Connell.
 Envelope and paper bag making—2049—J. Gathercole.
 Envelope-making—2056—A. V. Newton.
 Envelope and paper-making—2109—D. Rolls.
 Explosive shells—2058—L. E. Williams.
 Fatty and oily matters, treating—2110—G. Payne.
 Fence-posts, moulds for casting ground-screws of—2060—M. A. Muir and J. Mellham.
 Fibrous materials, combing—2155—W. Tongue.
 Filamentous materials, combing—1266—A. Morel.
 Files and rasps, cutting—1992—W. Furness and W. Bray.
 Fire-arms, breech-loading—2016—T. Wilson.
 Fire-arms, breech-loading—2073—W. E. Newton.
 Fire-arms—2113—W. Tranter.
 Fire-arms, breech-loading—2143—J. C. R. Isherwood and R. Warry.
 Fire-arms, breech-loading—2159—S. A. Main.
 Fire-escapes—1990—E. Lamb.
 Fishing apparatus—2008—W. H. K. Mack.
 Flocks, manufacture of—2132—W. Greenwood.
 Floor-cloths, ornamenting—2149—J. Longbottom.
 Fountains, raising apparatus for—2167—E. Rimmel.
 Fountains—2169—A. Long.
 Garden-seats, awnings for—2042—E. H. D. Inge.
 Gas, manufacture of—2067—J. I. Ensley.
 Gas meters, wet—2047—J. Turner.
 Glass, moulding—1994—J. T. H. Richardson.
 Glass, printing on—2040—G. Davies.
 Guns, conversion of muzzle-loading to breech-loading—2135—J. Darby.
 Guns, manoeuvring—2139—R. A. E. Scott.
 Hammers—1986—S. Chatwood and J. and T. Sturgeon.
 Hammers, direct acting tilt—2070—R. Leigh.
 Hat-stretcher—2173—W. Bayne.
 Horse-shoes—2080—W. E. Gedge.
 Hydraulic engines—2014—W. Jackson.
 Inorganic glyceric ether—2115—A. Paraf.
 Iron and steel manufacture—2101—J. Cameron.
 Irish moss and sea-weed, pulverising—2148—W. Welld.
 Jacquard machines—2050—J. Brown and J. Hiton.
 Jute, treatment of—2046—A. Oldroyd and P. A. Godefroy.
 Knives and forks—2075—H. Sanderson.
 Ladies' dress suspenders—2004—J. Whittaker.
 Lamps—2032—G. Warriner and W. H. Stallard.
 Lamps—2147—J. S. Nibbs.
 Lamps, consumption of smoke from—2096—C. Brown.
 Lathes, chucks for—2036—W. E. Newton.
 Marble, cutting and grinding—2092—W. Brookes.
 Mattresses, &c., stuffing for—2118—J. H. Johnson.
 Metals, coating—2095—J. Webster.
 Mills, portable—2142—W. E. Gedge.
 Motive-power—2030—G. Zanni.
 Motive-power, obtaining—2137—J. H. Johnson.
 Musical instruments and notation—2054—W. Clark.
 Nail-making—2144—W. E. Newton.
 Needle gun—2065—H. G. Craig.
 Nitrous gas, condensation of with chlorine—2114—E. T. Hughes.
 Oils, distillation and rectification of—2145—W. E. Newton.
 Ordnance—1996—W. E. Newton.
 Ordnance—2133—W. Weldon.
 Ordnance—2146—J. Whitworth.
 Ores, pulverising—2024—J. H. Johnson.
 Paper-bag making—2129—J. S. Blockey and J. Hervey.
 Pickle piercer—2098—J. W. Hoffmann and G. R. Wilson.
 Pipes, earthenware, &c.—2059—C. F. Cotterill.

Portable lanterns—2028—G. B. Windle.
 Presses for printing date on railway tickets—2086—J. B. Edmondson and J. Carson.
 Projectiles—2124—R. A. E. Scott.
 Puddling furnaces—2119—W. Clark.
 Pumps—2091—E. W. De Russett and R. F. Dale.
 Railway brakes—2111—J. Helly.
 Railway-carriages dispensing with turn-tables—2150—R. Wappenstein.
 Railways, permanent way of—2019—P. M. Parsons.
 Railways, permanent way of—2120—A. Bernhard.
 Railway signals—2094—T. Fleet, W. Payne, and F. Rock.
 Railway trains, communication between passengers and guards or driver on—2163—W. Harrison.
 Reaping machines—2165—P. V. Bailleul.
 Reaping machines—2108—W. Smith.
 Rotary steam-engines—2048—G. B. Harkes.
 Saddles—2055—J. Clay.
 Safes, fire and thief-proof—2152—H. R. Minns.
 Safety guages—2161—J. A. Coffey.
 Saw frames, applying motive power to—2044—J. Robinson and J. Smith.
 Screw stock—2979—R. Bagley.
 Self-raking reaper—2154—F. Howard.
 Sewing machines—2053—C. T. Judkins.
 Sewing machines—2069—E. A. Cowper.
 Sewing machines—2136—W. Taylor.
 Signals—2085—W. J. Current.
 Ships, armour-plated—2151—J. M. Hyde.
 Ships' boats, detaching—2093—H. B. White.
 Ships' rudders—2104—W. Clark.
 Shuttle distributor for fringe machinery—2051—B. Donnet.
 Slubbing and roving frames—2131—S. R. Platt and E. Hartley.
 Smoke-prevention—2072—D. Marchal.
 Stamps for producing impressions—2063—J. Collins and A. D. Campbell.
 Steam-engines—2127—J. Varley.
 Steam-pumps, direct-acting—2088—R. J. Worth.
 Steam roller for agricultural purposes—1280—W. H. Crispin.
 Submarine rakes—2171—J. Johnson.
 Telegraphic cable—2052—W. R. Lake.
 Textile fabrics, calenders used in finishing—2078—R. Wilson and W. Martin.
 Textile fabrics, waterproofing—2084—C. F. Baxter.
 Thermometers and pyrometers—2088—B. F. Weatherdon.
 Washing machines—1887—W. Burgess.
 Water, filtering and purifying—2125—G. E. Moore.
 Water, purification of—2107—A. Kuhne.
 Wood, preserving—2034—J. N. Browne.
 Wool-combing—2128—S. Mortimer.
 Woven fabrics—2090—J. A. Turner.
 Yarns and fabrics, a green colour for dyeing and printing—2083—J. A. Wanklyn and A. Faraf.

INVENTIONS WITH COMPLETE SPECIFICATIONS FILED.

Eyelet-making machines—2250—G. T. Bousfield.
 Rotary steam engine—2270—G. White.

PATENTS SEALED.

702. G. Willans.	792. T. Sagar and G. Keighley.
722. T. Restell.	837. C. Rozière.
737. R. A. Boyd.	838. M. Henry.
738. M. P. W. Boulton.	919. C. Pardoe.
740. P. H. Ashberry.	1104. A. V. Newton.
744. T. A. Mathieson.	1529. C. Brautigam.
754. J. Jessop & W. Warburton.	1550. N. Brand.
767. E. W. Bunnett.	1755. A. V. Newton.

From Commissioners of Patents Journal, September 11th.

PATENTS SEALED.

755. G. Booth.	812. T. Routledge, T. and W. H. Richardson.
756. J. F. Brinjes.	839. W. E. Newton.
759. J. Elder.	850. J. H. Burton.
776. B. W. Selby.	907. T. Storey & W. V. Wilson.
777. J. Cole.	917. H. E. Newton.
779. T. G. Ghislain.	941. E. Brooke.
780. W. Hutchinson & F. Jolly.	993. J. B. Fuller.
781. F. H. Gossage.	1007. J. Foster and J. Hollinrake.
785. W. Bates and F. Bates.	1011. W. Clark.
789. J. H. Johnson.	1338. O. Brothers.
799. F. Hinton.	1937. W. E. Newton.
806. T. G. Sylven.	

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

2177. N. Bailey.	2161. J. H. Banks.
2184. C. G. Kelvey & W. Holland.	2213. W. H. Tucker.
2209. R. A. Brooman.	2232. H. and J. W. Wright, and W. Clough.
2203. L. Mond.	2228. E. Oliver and G. Myers.
2206. W. A. Wilson & J. Smith.	2233. M. A. Muir and J. Mellham.
2207. J. Burch.	
2056. C. G. Wilson.	

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

2059. J. G. N. Alleyne.	2106. J. Bottomley and A. H. Martin.
2036. E. Blake.	